

REMARKS

The Applicant thanks the Examiner for the thorough consideration given the present application. Claims 1-20 are currently being prosecuted. Claims 1-18 and 20 are amended. Claim 1 is independent. The Examiner is respectfully requested to reconsider his rejections in view of the amendments and remarks set forth herein.

Drawings

The Official Draftsperson has not approved the formal drawings submitted by the Applicant. It is respectfully submitted that the drawings comply with the requirements of the USPTO. If the Official Draftsperson has any objections to the formal drawings, s/he is respectfully requested to contact the undersigned as soon as possible so that the appropriate action may be taken.

Specification Objections

The Examiner has objected to the specification because headings are missing. In response, the specification is amended herein to add the required headings. Reconsideration and withdrawal of this objection are respectfully requested.

Rejections under 35 U.S.C. §103(a)

Claims 1-4, 7-11, and 19-20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Korhonen et al., WO 96/20121, in view of Keip (U.S. 5,921,739). Claims

5 and 12-14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Korhonen et al. in view of Kiep, and in further view of Anderson (U.S. 5,492,067) and Suzuki et al. (U.S. 4,702,008). Claims 6, 15-17, and 18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Korhonen et al. in view of Kiep, and in further view of Curran (U.S. 4,976,336).

These rejections are respectfully traversed.

Independent claim 1 of the present invention is amended to include a novel combination of elements not taught or suggested by any of the prior art cited by the Examiner. Specifically, the present invention as set forth in claim 1, as amended herein, is directed to an apparatus for handling stacked units of boards having a combination of elements including actuators for enabling the lift units to rotate between a transfer position and a home position.

The Examiner will note that the above combination of elements is fully supported by, e.g., on page 6, lines 4-12 of the specification and in FIG. 3, which disclose actuators 37, 38 for moving the support member 31 (of the lift unit) at least between the transfer position and the home position.

By contrast, as the Examiner concedes, Korhonen et al. fail to teach lift units which are pivotable, and Keip merely discloses cams 57 which pivot when coming into contact with cam engagement rollers 61 which are positioned on adjustable support arms 62. Thus, no combination of Korhonen et al. and Keip teaches or suggests the combination of elements set forth in independent claim 1, as amended herein.

Furthermore, none of the other references cited by the Examiner discloses the combination of elements contained in claim 1 of the present invention.

The Examiner will note that dependent claim 20 is amended herein to recite lift units further comprising roller members adapted to run on columnar legs. No combination of Korhonen et al. and Keip teaches or suggests lift units further comprising roller members adapted to run on columnar legs.

In addition, the Examiner will note that claims 1-18 and 20 are amended merely to place them in a form more consistent with U.S. practice.

In view of the above amendments and remarks, it is respectfully submitted that independent claim 1 is in condition for allowance. Regarding claims 2-20, which stand rejected under 35 U.S.C. §103(a), these claims are also allowable due to their dependence on allowable claim 1, as well as for the additional limitations contained therein. Accordingly, all claims of the present application should be deemed allowable, and reconsideration and withdrawal of the rejections under U.S.C. §103(a) are respectfully requested.

CONCLUSION

In view of the above amendments and remarks, reconsideration of the rejections and allowance of all of the claims are respectfully requested.

Since the remaining patents cited by the Examiner have not been utilized to reject claims, but merely to show the state of the art, no comment need be made with respect thereto.

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. It is believed that a full and complete response has been made to the outstanding Office Action, and that the present application is in condition for allowance.

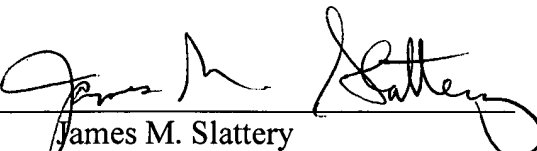
If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone Carl T. Thomsen (Reg. No. 50,786) at (703) 205-8000.

Pursuant to the provisions of 37 CFR §§1.17 and 1.136(a), Applicant respectfully petitions for a one (1) month extension of time for filing a response in connection with the present application. The required fee of \$110.00 is attached hereto.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17, particularly extension of time fees.

Respectfully submitted,

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MARKED-UP COPY OF AMENDED CLAIMS

IN THE SPECIFICATION

The following heading has been added on page 1, line 1 of the specification.

--BACKGROUND OF THE INVENTION--

The following heading has been added on page 1, line 2, of the specification.

--Field of Invention--

The following heading has been added on page 1, line 6 of the specification.

--Description of Related Art--

The following heading has been added on page 1, line 27 of the specification.

--BRIEF SUMMARY OF THE INVENTION--

The following heading has been added on page 2, line 19 of the specification.

--BRIEF DESCRIPTION OF THE DRAWINGS--

The following heading has been added on page 3, line 7 of the specification.

--DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS--

IN THE CLAIMS:

The claims have been amended as follows:

1. (Thrice Amended) An apparatus for handling stacked units of boards, said apparatus comprising a stacker carrier [(5)] capable of moving a plurality of stacked units [(2)] placed on a support bed [(4)] in a storage area into storage stacks and off from said

storage stacks, respectively, having lift units [(23, 24)] adapted to the opposite sides of said stacker carrier [(5)], said lift units being rotatably mounted on pivot shafts [(39, 40)] and individually movable and arranged to cooperate so as to elevate/lower the stacked units of boards resting on said support bed,

wherein the apparatus further comprises [a plurality of lift elements (25, 26) serving to elevate and lower] actuators for enabling the lift units [(23, 24)] to rotate between a transfer position and a home position.

2. (Twice Amended) An apparatus according to claim 1, wherein each of the plurality of lift units [(23, 24)] includes load support members [(31)] and, respectively, the support bed [(4)] includes mating members [(53)] for locking the support bed [(4)] to the lift units [(23, 24)] at least for the duration of a lifting operation.

3. (Thrice Amended) An apparatus according to claim 1, wherein said load support members [(31)] and said mating members [(53, 54)] are provided with interlocking mating shapes.

4. (Thrice Amended) An apparatus according to claim 1, wherein each of said support members [(31)] is provided with a protruding part [(32)] forming an angle with the horizontal plane during the lifting operation.

5. (Four Times Amended) An apparatus according to claim 1, wherein each of said lift units [(23, 24)] is actuated by two drive shafts driving [said] a plurality of lift elements

[(25, 26)], said plurality of lift elements being a plurality of lift chains, and wherein said drive shafts are arranged to be driven by at least one drive unit [(27)] equipped with a variable-frequency inverter and an angular pulse encoder or a similar position transducer.

6. (Thrice Amended) An apparatus according to claim 1, wherein said lift units [(23, 24)] are equipped with at least one drive unit, and when the number of drive units [(27)] is larger than one, the first one of said drive units is a so-called master drive unit, and the others are so-called slave drive units.

7. (Twice Amended) A support bed according to claim 1, wherein at least two opposite edges of the support bed [(4)] are provided with mating members [(53, 55)] capable of locking said support members [(31)] of said lift units to said support bed [(4)].

8. (Twice Amended) A support bed according to claim 1, wherein said mating members of said support bed [(4)] are formed by bracket edges [(53, 55)] slanted downward by an angle $[(\alpha)]$ from the horizontal plane.

9. (Twice Amended) An apparatus according to claim 2, wherein said load support members [(31)] and said mating members [(53, 54)] are provided with interlocking mating shapes.

10. (Twice Amended) An apparatus according to claim 2, wherein each said support member [(31)] is provided with a protruding part [(32)] forming an angle with the horizontal plane during the lifting operation.

11. (Twice Amended) An apparatus according to claim 3, wherein said each support member [(31)] is provided with a protruding part [(32)] forming an angle with the horizontal plane during the lifting operation.

12. (Thrice Amended) An apparatus according to claim 2, wherein each of said lift units [(23, 24)] is actuated by two drive shafts driving [said] a plurality of lift elements [(25, 26)], and said drive shafts are arranged to be driven by a drive unit [(27)] equipped with a variable-frequency inverter and an angular pulse encoder or a similar position transducer.

13. (Thrice Amended) An apparatus according to claim 3, wherein each of said lift units [(23, 24)] is actuated by two drive shafts driving [said] a plurality of lift elements [(25, 26)], and said drive shafts are arranged to be driven by a drive unit [(27)] equipped with a variable-frequency inverter and an angular pulse encoder or a similar position transducer.

14. (Thrice Amended) An apparatus according to claim 4, wherein each of said lift units [(23,24)] is actuated by two drive shafts driving [said] a plurality of lift elements [(25, 26)], and said drive shafts are arranged to be driven by a drive unit [(27)] equipped with a variable-frequency inverter and an angular pulse encoder or a similar position transducer.

15. (Twice Amended) An apparatus according to claim 2, wherein said lift units [(23, 24)] are equipped with at least one drive unit [(27)], and when the number of said drive

units [(27)] is larger than one, the first one of said drive units is a so-called master drive unit and the others are so-called slave drive units.

16. (Twice Amended) An apparatus according to claim 3, wherein said lift units [(23, 24)] are equipped with at least one drive unit [(27)], and when the number of said drive units [(27)] is larger than one, the first one of said drive units is a so-called master drive unit and the others are so-called slave drive units.

17. (Twice Amended) An apparatus according to claim 4, wherein said lift units [(23, 24)] are equipped with at least one drive unit [(27)], and when the number of said drive units [(27)] is larger than one, the first one of said drive units is a so-called master drive unit and the others are so-called slave drive units.

18. (Twice Amended) An apparatus according to claim 5, wherein when the number of said drive units [(27)] is larger than one, the first one of said drive units is a so-called master drive unit and the others are so-called slave drive units.

19. An apparatus according to claim 1, wherein said plurality of lift elements is a plurality of lift chains.

20. (Amended) An apparatus according to claim 1, wherein the [apparatus] lift units further comprises roller members [(33, 34, 35, 36)] adapted to run on columnar legs [(11, 12, 13, 14)].